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**From:** EPAResearchCompass [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C1E8F11508674C3C954553A1129D33E5-EPARESEARCH]  
**Sent:** 8/14/2018 7:40:17 PM  
**To:** ORD-ALL Feds and NonFeds and RSLs [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2c735272eef941588aefd9a05ed28823-ORD-ALL Feds and NonFeds and RSLs]  
**CC:** Carter, Bobbi [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dcafe85fc418ebd1651be2e8ab82d-Carter, Bobbi]; Barnett, Felicia [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5773b45cae5142fe950861dd6146f1e9-Barnett, Felicia]; Lincoln, Larry [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8248d03a1441414db7754db201ebec45-Lincoln, Larry]; Liljegren, Jennifer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c7098a838cd34f75b8878571fe95d939-JLiljegr]; Taylor, Dawn [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b984d00ec06544e498ee5d986f97047c-Taylor, Dawn]; Gettle, Jeaneanne [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8e72aa7e1894faea44006fd9f22b637-Gettle, Jeaneanne]; Klinger, Adam [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=346d5466632f4967adc7169c8d2ce4fd-Klinger, Adam]; Fan, Shirley [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cdeba1df9599435cb7401d0a65be7cda-Sfan02]; Pollard, Solomon [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=16cdf700f8024145847a2770b84abae3-Pollard, Solomon]; Clarage, Meredith [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ee9504437be545489f518710a5e80e68-Clarage, Meredith]; Peffers, Mel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1b6116fbb41448b38b3caefc882165fe-Peffers, Melissa]  
**Subject:** Weekly Compass: August 14, 2018



Weekly Update: 8/14/2018

Welcome to the Weekly Compass, your gateway to information about recent and upcoming ORD activities. If you have ideas for the Weekly Compass, please send them to the editors. To see past issues, visit the Weekly Compass archive on [ORD@work](mailto:ORD@work).

## Weekly Note from Jennifer

ORDers- This week, Chris Robbins and I will be joined by Anne Idsal, David Gray, and Ken Wagner to host Region 6 state and tribal environmental leaders for a one-day meeting in our laboratory facility in Ada, OK. Participating state environmental agencies include AR, LA, OK and TX, as well as OK and TX state oil and gas agencies and state associations. Attending tribes include the Cherokee Nation, Chickasaw Nation, Choctaw Nation of Oklahoma, Citizen Potawatomi Nation, Kickapoo Tribe of Oklahoma, and Muscogee (Creek) Nation. The objective of the visit is to make EPA research and applied science tools more accessible to states and tribes, and to learn more about environmental science challenges states and tribes are confronting. This information will help inform ORD's strategic research planning.

On Wednesday, I will be attending a joint meeting ORD is having with Oklahoma DEQ at the OK DEQ office in Oklahoma City. During the meeting, the Region 6 States and Tribes Meeting from the day prior will be discussed, as well as Oklahoma's science priorities, including PFOA and PFOS and phosphorous treatment.

Stay cool and have a great week. -Jennifer

## Quick Updates

- Registration for the 15th Annual EPA Drinking Water Workshop: Small Systems Challenges and Solutions is now open
- FY18 Information Security and Privacy Awareness Training is due by **August 31**
- No Fear Act Training, COOP Training, FOIA Training, and Records Management Training are now available, training must be done by **September 30**
- Don't forget to check out the open opportunities on Talent Hub!
- You can read the This Week @ EPA newsletter here.
- Upcoming webinars:
  - EPA Tools and Resources Webinar: CompTox Chemistry Dashboard: Wednesday, August 22, 3-4 ET
  - 
  - Computational Toxicology Communities of Practice: Generalized Read-Across (GenRA): Thursday, August 23, 11-12 ET
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  - 
  - SERDP & ESTCP Webinar: Sediment Volume Search Sonar Development: Thursday, August 23, 12 ET
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  - 
  - IRIS Public Science Meeting: Thursday, August 23, 1-3 ET

Faces of ORD: NCEA's Tom Long

## In the Lab:

### Investigating Legionnaires' Disease in Michigan

Last week, NHEERL's Tim Wade met with the team of researchers conducting a retrospective investigation of an apparent cluster of Legionnaires' disease cases that occurred in Genesee County, Michigan (where Flint is the largest city) in 2014-2015. The goal of the study is to

determine whether Legionnaires' cases that have been attributed to the change in the Flint water supply may have been part of a hospital-associated outbreak. Dr. Wade is part of the peer review panel for the study and will review protocols and procedures and advise in the design of the investigation.

## **Updating Congressional Staff on Coastal Water Conditions in the Pacific Northwest**

Last week, Maxine Sugerman, Legislative Assistant to Representative Suzanne Bonamici (OR 1st District), visited the WED facility in Newport, OR, to learn about EPA's coastal water quality and ecosystem services research. The EPA briefing was part of a full day visit to Oregon State University's Hatfield Marine Science Center. Ms. Sugerman was particularly interested in ocean acidification issues, which are affecting coastal fisheries in OR and the Pacific Northwest region. Her questions on the topic provided NHEERL with the opportunity to describe research on nutrient-enhanced coastal acidification and hypoxia.

## **Providing Technical Support for Agriculture in Palau**

NHEERL's Mark Johnson began an Embassy Science Fellow assignment in Palau. Dr. Johnson will spend two months bringing his expertise in soil science and biochar to work with local farmers to improve their soil conditions for agriculture. Biochar can help improve nutrient management, and the ability of soil to hold water. It can also add organic matter to the soil. The Embassy Science Fellows Program provides U.S. embassies access to the expertise of U.S. government officers in science and technology fields. The program is coordinated through the U.S. Department of State and OSP.

## **ENTACT Workshop This Week**

This week, EPA is hosting a workshop on the Non-Targeted Analysis Collaborative Trial (ENTACT) in RTP, NC. EPA scientists from NERL and NCCT are leading a multi-phase project to evaluate the ability of non-targeted analysis methods to consistently and correctly identify unknown chemicals in different media samples (water, consumer products, etc.). EPA's Non-Targeted Analysis Collaborative Trial (ENTACT) was formed in late 2015 and includes nearly 30 academic, government and industry laboratories. ORD staff will be presenting on how our research can support the non-targeted analysis community.

## **Sixth Interagency Conference on Research in the Watersheds (ICRW)**

July 23-26, EPA along with USDA, USGS, USFS, BLM, USFWS, and the Consortium of Universities for the Advancement of Hydrologic Science, Inc. sponsored the 6<sup>th</sup> Interagency Conference on Research in the Watersheds (ICRW) in Shepherdstown, WV. The theme of the Sixth Conference was 'Working Watersheds and Coastal Systems: Research and Management for a Changing Future.' The research conference was attended by more than 150 researchers who represented scientific experts and practitioners from all of the U.S. Federal sector research agencies. ICRW was first hosted in 2003 and this year is the first hosted by US EPA. Chuck Lane (NERL) served as Conference Chairman and he was assisted by colleagues from NERL, NCEA, and NHEERL as well as members from the other sponsoring organizations.



## **PFAS Meetings in North Carolina, August 14-16**

As reported previously, at the request of Region 4, NRMRL's Tom Speth is scheduled to present at the [Fayetteville Town Hall](#), along with Andy Gillespie (NERL). Tom plans to give two presentations, one on PFAS drinking water treatment and one on PFAS remediation. On August 15, NRMRL's Jonathan Pressman and Jonathan Burkhardt will join Tom for a meeting at North Carolina State University to discuss PFAS removal technologies for drinking water. On August 16, they will travel to Wilmington, NC, for a meeting with the Cape Fear Public Utility Authority to discuss ongoing collaborations to analyze PFAS removal using granular activated carbon.

## **Research Discussions with Eastern Kentucky University (EKU), Richmond, KY, August 1**

NRMRL's Ed Barth met with Gary Brown and Jason Marion of ECU to discuss their research involving site remediation, PFAS, harmful algal blooms (HABs), and bioaerosols. ECU is one of 30 universities recognized by the National Environmental Health, Science, and Protection Accreditation Council, which accredits stand-alone Environmental Health Academic Programs. Both Dr. Brown and Dr. Marion are active in the operations of the [National Environmental Health Association](#) (NEHA). This meeting facilitated collaboration between ORD and ECU researchers serving in NEHA leadership positions and provided information exchange on research in PFAS, HABs (nutrients), and bioaerosols.

## **Microbial Source Tracking Efforts This Month**

NRMRL's Cathy Kelty and Orin Shanks are conducting in-depth training on microbial source tracking methods for researchers from several organizations during the month of August. Region 5 scientists received training August 6-10, and Region 7 scientists are receiving training on August 6-16. Additionally, two individuals from the Oregon Department of Agriculture are taking the training on August 13-16. Participants are receiving hands-on training for the use of human-associated fecal source identification quantitative polymerase chain reaction (qPCR) methods developed by NRMRL.

Orin Shanks and Region 3 are partnering with the Washington (DC) Department of Energy and Environment (DOEE) to implement microbial source tracking (MST) advanced monitoring technologies in regulated municipal separate storm sewer system (MS4) stormwater discharges. Washington, DC has a complex system of more than 650 MS4 discharge points, which channel runoff from the city to local receiving waters during storm events. These points are all subject to total maximum daily load (TMDL) implementation for bacterial impairments. Orin will be meeting with Region 3 and DOEE, presenting a seminar on MST, and touring candidate site locations for implementing MST technology.

## **Tour of EPA's Experimental Stream Facility for Industry Group, August 16**

NRMRL's Chris Nietch will conduct a tour of ESF for the Procter & Gamble (P&G) Environmental Stewardship and Sustainability Group. The group consists of about 20 P&G employees who are engaged in environmental programs within the company. Chris will give a tour of the facility, provide some background information on historic collaborations involving EPA's ESF and P&G, and discuss research conducted at the ESF facility and in the East Fork watershed.

## **Technical assistance to Region 9 at the Montrose Superfund Site and the Del Amo Superfund Site, Los Angeles, CA**

At the request of Region 9, NRMRL's Steve Acree and Randall Ross will participate in a site visit and technical meetings next week to discuss groundwater remediation at the Montrose and Del Amo sites. Representatives from Region 9 and representatives of the responsible parties for the sites will also participate. Montrose Chemical Corporation of California manufactured the pesticide DDT at the site from 1947-1982. Primary groundwater contaminants associated with Montrose are the raw DDT material, chlorobenzene, and the manufacturing by-product parachlorobenzene sulfonic acid, or pCBSA. At the adjacent Del Amo site, industrial operations produced synthetic rubber, which resulted in contamination from polynuclear aromatic hydrocarbons.

## **Presentation at the 2018 National Enforcement Investigations Center (NEIC) Technical Information Exchange, Denver, CO**

Next week, NRMRL's Eben Thoma will discuss prototype next generation emissions measurement (NGEM) approaches currently being demonstrated near facilities in the Rubbertown industrial district of Louisville, KY. This work is part of a collaborative project between EPA and the Louisville Metro Air Pollution and Control District. The presentation will provide early case study examples from the project. OECA's NEIC is hosting the Technical Information Exchange to facilitate cooperation, innovation, and further development in the field of environmental monitoring, analysis and hazard assessment. Attendees will include federal, state, local, and industry representatives

## **Ecotoxicological Profile of Nanoparticles**

NRMRL's Rajender Varma was a co-author on a recently published paper titled "Iron and Iron Oxide Nanoparticles Synthesized with Green Tea Extract: Differences in Ecotoxicological Profile and Ability to Degrade Malachite Green," in the *Journal of the American Chemical Society*. The described approach generates new non-toxic superparamagnetic iron oxide nanoparticles from existing and toxic green-tea derived iron nanoparticles. These findings highlight low ecotoxicological risks and the suitability of these green-synthesized iron nanoparticles for environmental remediation purposes.

## **STAR Funding Opportunity Now Open**

EPA's Advancing Actionable Alternatives to Vertebrate Animal Testing for Chemical Safety Assessment RFA is open for applications through Sept. 25, 2018. The funded research activities under this announcement are intended to advance the science underpinning the use of non-vertebrate test methods, and to develop actionable alternative approaches. This RFA was developed and posted in record time by implementing recommendations from a recent Lean analysis of the STAR program grants process. By removing duplicative steps and review processes, and using a team approach, ORD was able to convene a writing team, concept and concurrence meeting much faster than in previous cycles. Based on historical averages for this cycle, processing time went from 90 days to 34 days. ORD plans to use this improved approach for all future RFAs.

## **Contributing to Cross-Federal Approach to Human Genetic Diversity**

Today, NHEERL Director Wayne Cascio will represent ORD at "A Conversation about Human Genetic Diversity," hosted by the National Academies of Science, Engineering, and Medicine, in Washington, DC. Dr. Cascio will be joined by representatives of academia and other federal agencies to share information about current activities and begin to develop a coordinated federal approach for describing human genetic diversity and differences.

## **NERL Scientist to Serve on NOAA Community Model Review Committee**

NERL's Rohit Mathur was invited to join NOAA's Community Model Review Committee. The committee serves as an independent review for modeling programs in NOAA's National Weather Service and Oceanic and Atmospheric Research. The committee's scope includes weather forecast modeling, space weather, air quality, water modeling and storm surge modeling. The committee will apply its understanding of NOAA's operational weather and climate modeling strategy, priorities, resource requirements, developmental approaches, investment strategies, and scientific and technical challenges to provide recommendations to the model research community. Serving as an expert in air quality forecast and atmospheric chemical transport modeling, Mathur participated in the Community Model Review Committee's first annual meeting last week in Boulder, Colorado.

## **Ontario Ministry of Environment and Climate Change Support**

NCEA's Andrew Hotchkiss and Jennifer Nichols provided support to the Ontario Ministry of Environment and Climate Change in regard to the most recent National Ambient Air Quality Standards (NAAQS) for Oxides of Nitrogen (NOx). This support was requested as Ontario prepares to review their own standards for NOx.

## **Final PPRTVs**

The final Provisional Peer-Reviewed Toxicity Values (PPRTVs) for Technical Toxaphene (CASRN 8001-35-2), Weathered Toxaphene, and Toxaphene Congeners were posted publicly (<https://hhpprtv.ornl.gov/quickview/pprtv.php>). Additionally, the assessment team led by Scott Wesselkamper is working with Region 4 in preparation for upcoming public meetings.

## **Want Your Photos Featured in Science Matters?**

The Science Matters editors need photos to feature in each newsletter. Please send your EPA research photos and a caption to Kacey Fitzpatrick ([Fitzpatrick.kacey@epa.gov](mailto:Fitzpatrick.kacey@epa.gov)) and Maggie Sauerhage ([Sauerhage.maggie@epa.gov](mailto:Sauerhage.maggie@epa.gov)) if you would like to share them with our 60,000+ subscribers!

## **Joint Annual Meeting of ISES-ISEE**

EPA scientists will be presenting at ISES 2018, August 26-30th. This Joint Annual Meeting of the International Society of Exposure Science and the International Society for Environmental Epidemiology (ISES-ISEE 2018) will bring together scientific experts and practitioners from academia, government, industry, and non-governmental organizations dedicated to the protection of health and environment. Find [more information about EPA presentations and exhibit booth activities](#).

## **Non-point Source Nutrient Pollution: Challenges in Common**

Last week, Anne Rea (SSWR), Tim Gleason, Wayne Munns and Walter Berry (NHEERL) briefed Florida's Department of Health and Department of Environmental Protection and Region 4 concerning research planned as part of the Nutrients Translational Science Pilot to evaluate

solutions to nutrient pollution on Cape Cod, MA. The discussion highlighted numerous similarities in the issues and challenges faced both in FL and on Cape Cod, and identified opportunities for information exchange and collaboration in the future. Representatives from Florida and Region 4 will be invited to the upcoming Problem Formulation workshop for the Nutrients Translational Science Pilot. Early engagement with states and communities facing similar non-point source nutrient issues will help to ensure transferability of the solutions and approaches developed for Cape Cod.

### **Grantee Publication on Low-carbon Energy and Savings in CA**

California has committed to decreasing greenhouse gas emissions by 80% below 1990 levels by 2050, requiring widespread adoption of low-carbon technologies, increased electrification, and changes in behavior. Researchers at the University of California, Davis, funded under the 2014 STAR RFA on "PM in a Changing World" have developed scenarios for achieving these goals and examined their implications for air quality. The results suggest that a low carbon scenario could decrease mortality associated with air pollution by 24-26% in 2050. The avoided deaths have an estimated value of \$11.4-20.4 billion/year.

### **Assisting Region 5 on Lead**

Region 5 is requesting ORD technical assistance in supporting their states' engagement on lead (Pb). This request resulted from an ORD presentation Valerie Zartarian gave on July 26. The presentation summarized one of the new ORD lead shark tank projects and included initial NERL results for identifying high lead risk locations. Those results included map comparisons by Rogelio Tornero-Velez using EJSCREEN with blood lead level predictive models, and Michigan blood lead level data analyses conducted by Jianping Xue (to be presented at the 2018 ISES Conference). Region 5 is interested in opportunities to pilot and apply ORD's work in their states. As a next step, Region 5 would like to partner with ORD in conversations with the state of Ohio which is applying modeling approaches with blood lead level data and related variables, and collaborate closely with ORD on how EPA can add value to states' efforts. In addition, Region 5 has requested sharing ORD's ISES poster (Xue et al.) on the Michigan blood lead level analysis with all their states to foster the dialogues.

### **Characterizing Ballast Water Biological Communities**

The journal article, "Ballast water exchange and invasion risk posed by intra-coastal vessel traffic: An evaluation using high throughput sequencing", was recently accepted for publication by *Environmental Science and Technology*. It was authored by NERL's John Darling, Erik Pilgrim, John Martinson, Yunguo Gong and Sara Okum (EPA Contractor), and by co-authors from Smithsonian's Environmental Research Center. Ballast water released from ships remains a significant pathway for non-native aquatic species to be introduced into surface waters despite ballast water exchange (BWE) efforts. Here, the researchers use genetic sequencing to characterize biological communities in ballast water delivered to Valdez, Alaska from multiple Pacific U.S. ports. The results showed that BWE can significantly but modestly affect these ballast water communities.

### **In the Office:**

#### **Be a Hall of Famer!**

Join the Feds Feed Families (FFF) Hall of Fame by going above and beyond to feed those in need! You can participate as an individual or as a group (no more than 5 people), and you can be recognized at one of three different levels – Silver, Gold, or Platinum – depending on how much you donate. All you need to do is track your individual or group donations and report the amounts to your office's FFF coordinator. Learn more about the Hall of Fame, find your office's

FFF coordinator, and learn about all the ways you can donate on the [Feds Feed Families intranet site](#).

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## **Accolades:**

### **Duluth Lab Drastically Reduces Junk Mail**

ORD's Mid-Continent Ecology Division (MED) laboratory in Duluth, Minnesota, has reduced the number of unwanted paper catalogs and advertisements that arrive at its doors. In the past, the MED received five full bins of mail per day. MED charged its front desk staff person with notifying companies to remove the facility from their mailing lists. The employee worked diligently to stop paper mailings and refused to take "no" for an answer. This effort, which started back in 2003, has reduced MED's mail by over 80 percent to one bin per day, and it is usually less than half full. This is a perfect example of the agency's [environmental management system \(EMS\)](#) in action: the MED identified a problem, developed a plan, implemented it, and found ways to continually improve upon it. Other EPA locations, like the Region 9 laboratory, have also implemented junk mail reduction efforts.

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## **In the News:**

### **ABC News: Air Pollution and Heart Health**

ABC News asked for an EPA comment on a recent UK study on cardiovascular effects of air pollution. The [story ran](#) earlier this month and quoted NHEERL's Wayne Cascio. Wayne discussed the effects PM has on the heart and also highlighted the MESA Air Study. "The study conducted in Great Britain by Dr. Nay Aung and colleagues supports an observation made in a large clinical research study known as the [MESA Air Study](#) carried out in the U.S. and funded by the EPA and the National Heart Lung and Blood Institute that long-term exposure to the near road environment appears to affect the structure of the heart."

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## **In the Community:**

### **EPA-RTP STEM Outreach Program**

On Thursday, August 16, the program will pilot a Bring a College Kid to Work Day at the EPA-RTP campus. Also on Thursday, the program will lead a hands-on science activity in the after school program at Holt Elementary in Durham, N.C.

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## **Faces of ORD: NCEA's Tom Long**





**Name:** Tom Long - not to be confused with the Tom (Thomas) Long in NRMRL!

**Job/Position:** Physical Scientist, currently on detail as Assistant Lab Director / Matrix Interface

**L/C/O or Program:** NCEA, currently on detail to NHEERL in RTP

**1. When did you start at EPA?** I initially started as a student services contractor in NHEERL in 2005, then joined NCEA as a Federal employee in May 2007.

**2. What's the most interesting thing about your job?** My job in NCEA is interesting because I get to work with a really multidisciplinary group of scientists. Our group writes the Integrated Science Assessments to support reviews of the National Ambient Air Quality Standards, which have both a health component and an ecological/welfare component, so there are air quality people together with health scientists and ecologists. Right now, though, I'm on detail to NHEERL as the matrix interface for the Air and Energy research program, which is a great learning experience as we go through the next round of research planning. Having the opportunity to do details is one of the many benefits of working at EPA – you can try out new things and meet people from other parts of the Agency that you would never run into otherwise.

**3. What's the most interesting thing in your workspace?** The strangest thing is probably this instrument called a hygrodisk. My father-in-law rescued it from a government facility that was shutting down. It consists of a dry-bulb and a wet-bulb thermometer with a kind of lever arm that you move over a graph to determine relative humidity and dew point. It looks very archaic. The really meaningful things, though, are the "glue gun" awards that NCEA gives out to team members when an Integrated Science Assessment is completed. They have little figurines, stickers, and other trinkets symbolizing different aspects of the assessment.

**4. What's your favorite thing to do (besides come to work)?** I love being outdoors, whether working in the backyard, going to local parks, or exploring State and National parks. I had the chance to both hike a section of the Appalachian Trail and hike up to Grinnell Glacier in Glacier National Park last year, so that was a good summer.

**5. What's your favorite lunch spot?** I like Asian food in general, but I have a special affinity for the Jan Pong soup with handmade noodles at China Express in RTP. It's got lots of vegetables, seafood, and pork, and a really delicious broth. I get mine Korean style, medium spicy.

**6. If you could have one superpower, what would it be?** It's kind of cliché, but I have to

say flying. Not only do you no longer have to worry about falling, but the world becomes more three-dimensional, which gives you a whole new perspective.

**7. What is your favorite movie?** I'm not much of a movie person, but I love North Carolina night (Thursdays) on UNC-TV. It was great when we first moved to NC to learn more about the area, and I still enjoy the nature and culture shows. (Also: a gem that recently surfaced is The Detectorists on Netflix.)

**8. Describe any steps you take in your daily life to protect the environment.** We compost and recycle like a lot of people, but one thing we do that might be unique is washing and reusing gallon zip-storage bags. They can easily be cleaned up and reused several times, especially if they've just held bread or salad.